

Patent Claims

1. A lightweight valve (1), in particular for internal combustion engines, with a valve stem (3), with a hollow valve cone (5) and with a valve disk (7) closing the valve cone (5), the valve disk (7) being provided with a recess (23) on its flat side facing the valve cone (5), characterized in that the valve cone (5) projects with its end region of greater diameter into the recess (23).
2. The lightweight valve as claimed in claim 1, characterized in that the recess (23) is designed as a centering and/or supporting seat.
3. The lightweight valve as claimed in claim 1 or 2, characterized in that there is a conical transition between valve disk (7) and valve cone (5).
4. The lightweight valve as claimed in one of claims 1 to 3, characterized in that the valve disk (7) is of disk-shaped design and has a conical longitudinal portion (31B) in the region of connection to the valve cone (5), the cone angle of this longitudinal portion (31B) being the same as the cone angle of the valve cone (5) at its end of greater diameter.
5. The lightweight valve as claimed in one of claims 1 to 4, characterized in that the transition between valve cone (5) and valve stem (3) and/or valve disk (7) and valve cone (5) in their connection region is at least approximately continuous.
6. The lightweight valve as claimed in one of claims 1 to 5, characterized in that the valve cone (5) is designed as a separate component and is fixed at its end region of smaller diameter to the valve stem (3) or to a stem connection element (49) provided on the valve disk (7), and in that a centering and/or supporting seat for the end of smaller diameter of the valve cone (5) is provided on the valve stem (3) or the stem connection element (49).
7. The lightweight valve as claimed in one of claims 1 to 6, characterized in that means for supporting the valve cone (5) are provided on the valve disk (7).